

CLAIMS

1. A therapeutic agent for solid tumors, said agent comprising as an active ingredient, an antibody that specifically binds to a protein having the amino acid sequence as set forth in SEQ ID NO: 2 or an antibody fragment that maintains the antibody activity.

2. The therapeutic agent according to claim 1 in which said antibody is a monoclonal antibody.

3. The therapeutic agent according to claim 1 in which said antibody is a chimeric antibody comprising the constant region of a human antibody and the variable region of a mouse antibody.

4. The therapeutic agent according to claim 1 in which said antibody is a humanized antibody comprising the complementarity determining region of a mouse antibody and the framework region and the constant region of a human antibody.

5. The therapeutic agent according to claim 1 in which said antibody is a human antibody.

6. The therapeutic agent according to any one of claims 1 to 5 in which said antibody fragment is a Fab, Fab', F(ab')₂ or Fv fragment.

7. The therapeutic agent according to any one of claims 1 to 6 in which said solid tumor is head and neck cancer, small cell lung cancer, non-small cell lung cancer (including squamous-cell carcinoma, adenocarcinoma, large cell carcinoma, adenosquamous carcinoma, and polymorphic sarcomatoid cancer, or cancer containing sarcoma components etc.), esophageal cancer, breast cancer, gastric cancer, colon cancer, rectal cancer, hepatic cancer, biliary tract cancer, pancreatic cancer, ovarian cancer, cervical cancer, endometrial cancer, prostate cancer, kidney cancer, bladder cancer, skin cancer, brain tumor, pediatric solid tumor, malignant bone tumor, or a metastatic cancer of these solid tumors.

8. Use of an antibody that specifically binds to a

protein having the amino acid sequence as set forth in SEQ ID NO: 2 or an antibody fragment that maintains the antibody activity, for producing a therapeutic agent for solid tumors.

5 9. The use according to claim 8 in which said antibody is a monoclonal antibody.

10 10. The use according to claim 8 in which said antibody is a chimeric antibody comprising the constant region of a human antibody and the variable region of a mouse antibody.

15 11. The use according to claim 8 in which said antibody is a humanized antibody comprising the complementarity determining region of a mouse antibody and the framework region and the constant region of a human antibody.

12. The use according to claim 8 in which said antibody is a human antibody.

20 13. The use according to any one of claims 8 to 12 in which said antibody fragment is a Fab, Fab', F(ab')₂ or Fv fragment.

25 14. The use according to any one of claims 8 to 13 in which said solid tumor is head and neck cancer, small cell lung cancer, non-small cell lung cancer (including squamous-cell carcinoma, adenocarcinoma, large cell carcinoma, adenosquamous carcinoma, and polymorphic sarcomatoid cancer, or cancer containing sarcoma components etc.), esophageal cancer, breast cancer, gastric cancer, colon cancer, rectal cancer, hepatic cancer, biliary tract cancer, pancreatic cancer, ovarian cancer, cervical cancer, endometrial cancer, prostate cancer, kidney cancer, bladder cancer, skin cancer, brain tumor, pediatric solid tumor, malignant bone tumor, or a metastatic cancer of these solid tumors.

30 15. A therapeutic method for solid tumors, said agent comprising, as an active ingredient, an antibody that specifically binds to a protein having the amino acid sequence as set forth in SEQ ID NO: 2 or an antibody

fragment that maintains the antibody activity.

16. The method according to claim 15 in which said antibody is a monoclonal antibody.

5 17. The method according to claim 15 in which said antibody is a chimeric antibody comprising the constant region of a human antibody and the variable region of a mouse antibody.

10 18. The method according to claim 15 in which said antibody is a humanized antibody comprising the complementarity determining region of a mouse antibody and the framework region and the constant region of a human antibody.

19. The method according to claim 15 in which said antibody is a human antibody.

15 20. The method according to any one of claims 15 to 19 in which said antibody fragment is a Fab, Fab', F(ab')₂ or Fv fragment.

20 21. The method according to any one of claims 15 to 20 in which said solid tumor is head and neck cancer, small cell lung cancer, non-small cell lung cancer (including squamous-cell carcinoma, adenocarcinoma, large cell carcinoma, adenosquamous carcinoma, and polymorphic sarcomatoid cancer, or cancer containing sarcoma components etc.), esophageal cancer, breast cancer, 25 gastric cancer, colon cancer, rectal cancer, hepatic cancer, biliary tract cancer, pancreatic cancer, ovarian cancer, cervical cancer, endometrial cancer, prostate cancer, kidney cancer, bladder cancer, skin cancer, brain tumor, pediatric solid tumor, malignant bone tumor, or a 30 metastatic cancer of these solid tumors.